PLASMA REACTOR HAVING RF POWER
APPLICATOR AND DUAL-PURPOSE WINDOW
DOCKET NO.: 306 D12

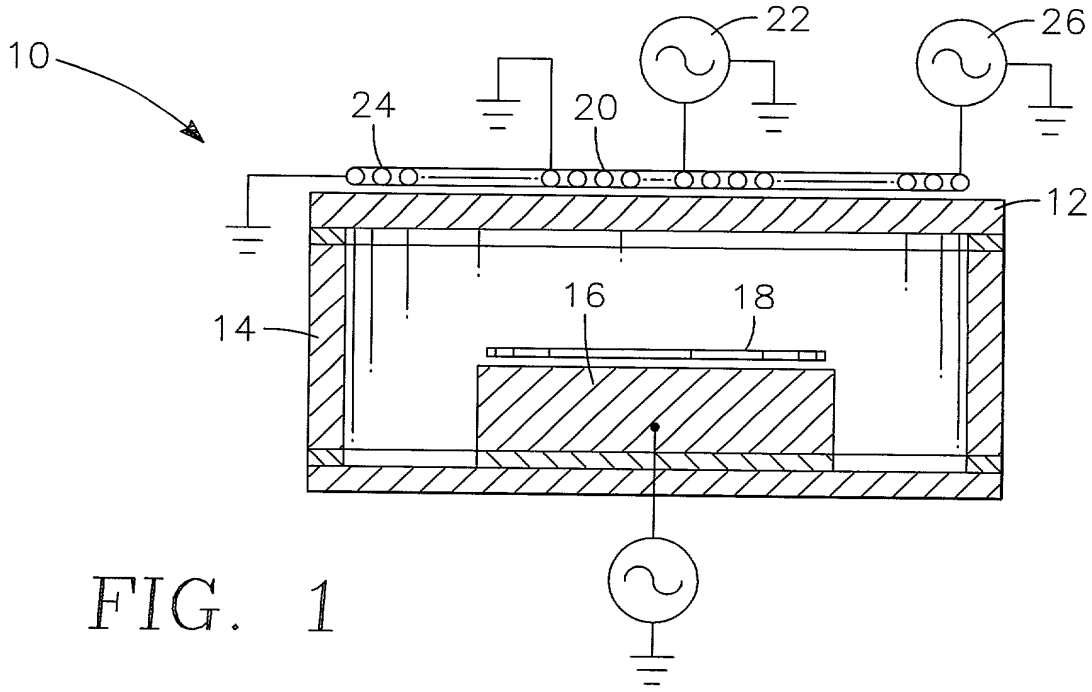

FIG. 1

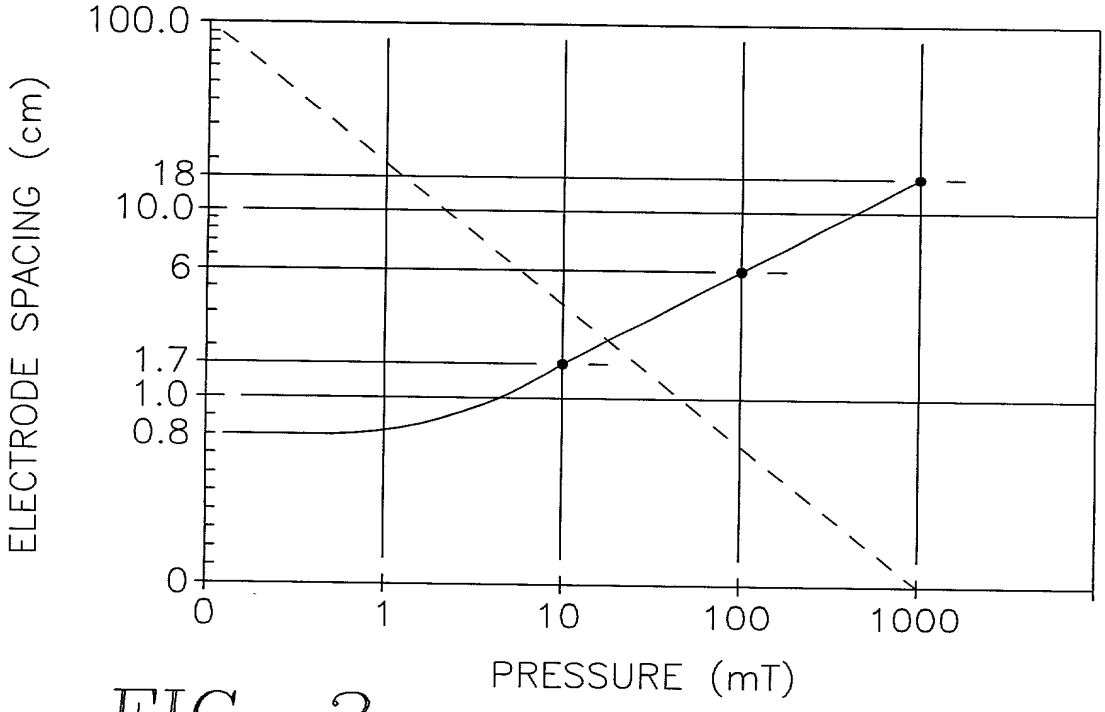

FIG. 2

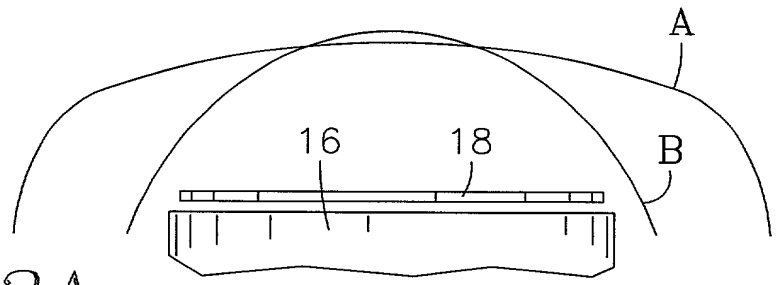

FIG. 3A

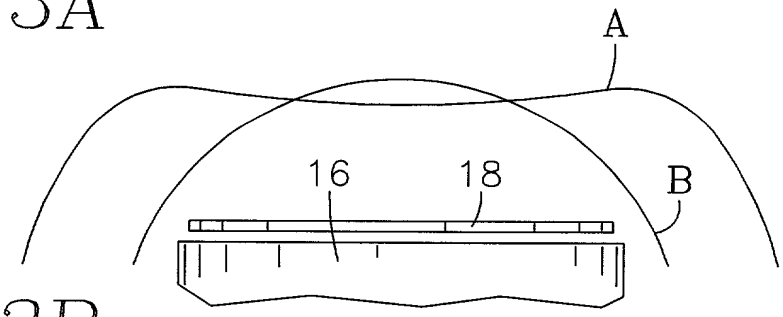

FIG. 3B

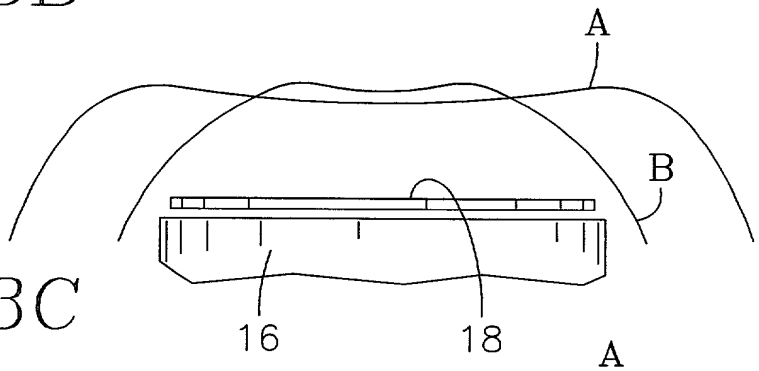

FIG. 3C

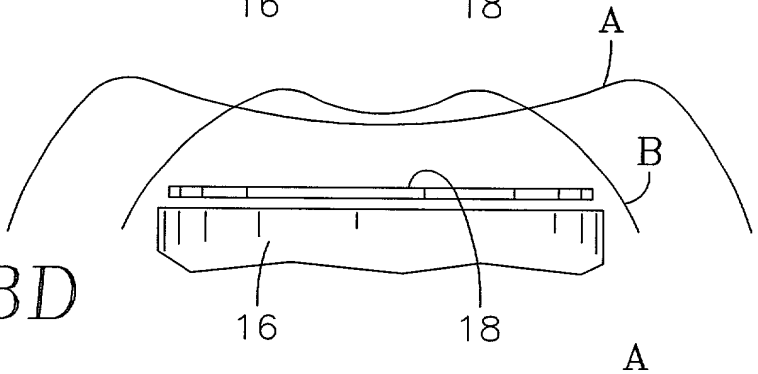

FIG. 3D

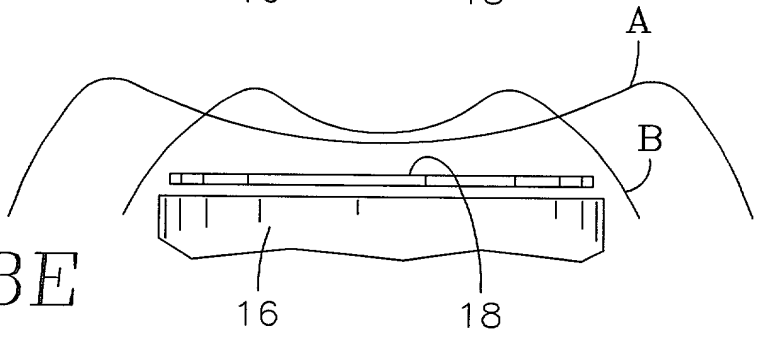

FIG. 3E

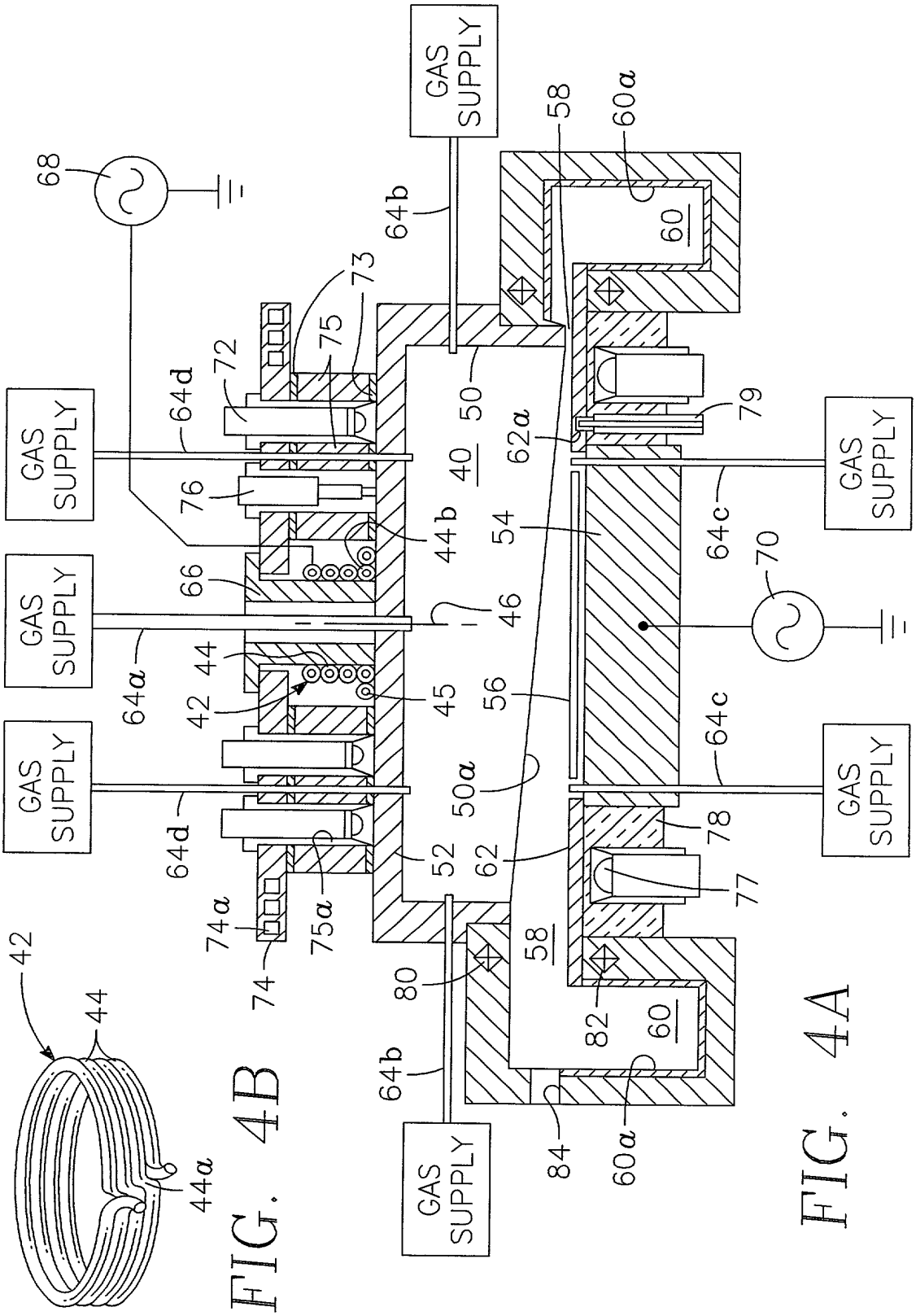
GAS SUPPLY
68
64b
58
60a
60
73
75
72
64d
50
62a
79
40
76
44b
54
66
46
64a
44
42
45
56
64c
70
50a
78
52
62
77
74a
75a
74
80
82
84
42
44
44a

FIG. 4B

FIG. 4A

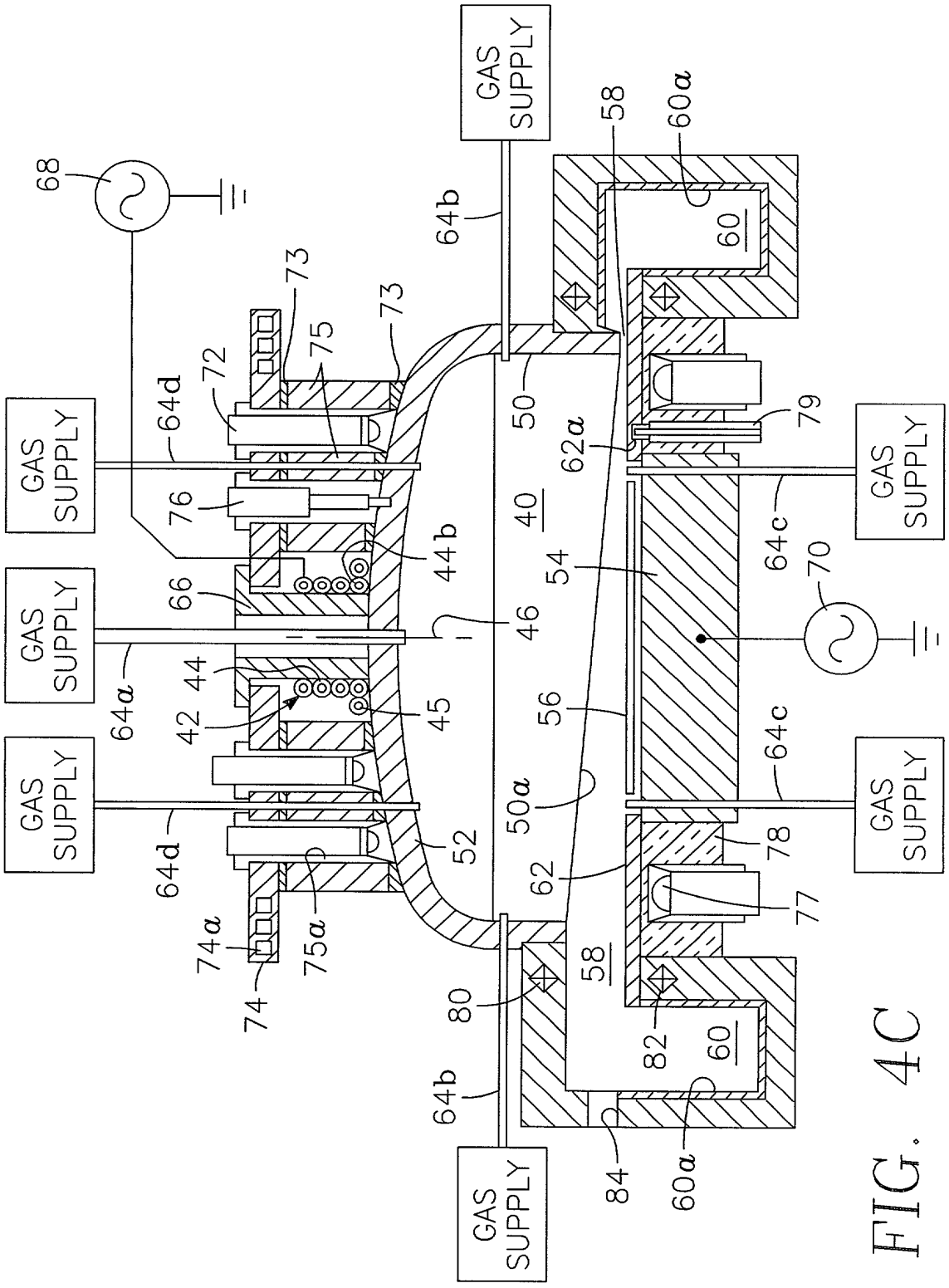
GAS SUPPLY
68
64b
58
60a
60
73
75
72
64d
50
79
62a
76
40
44b
54
66
46
70
64c
64a
44
42
45
56
50a
52
62
78
74a
75a
74
80
58
77
82
84

FIG. 4C

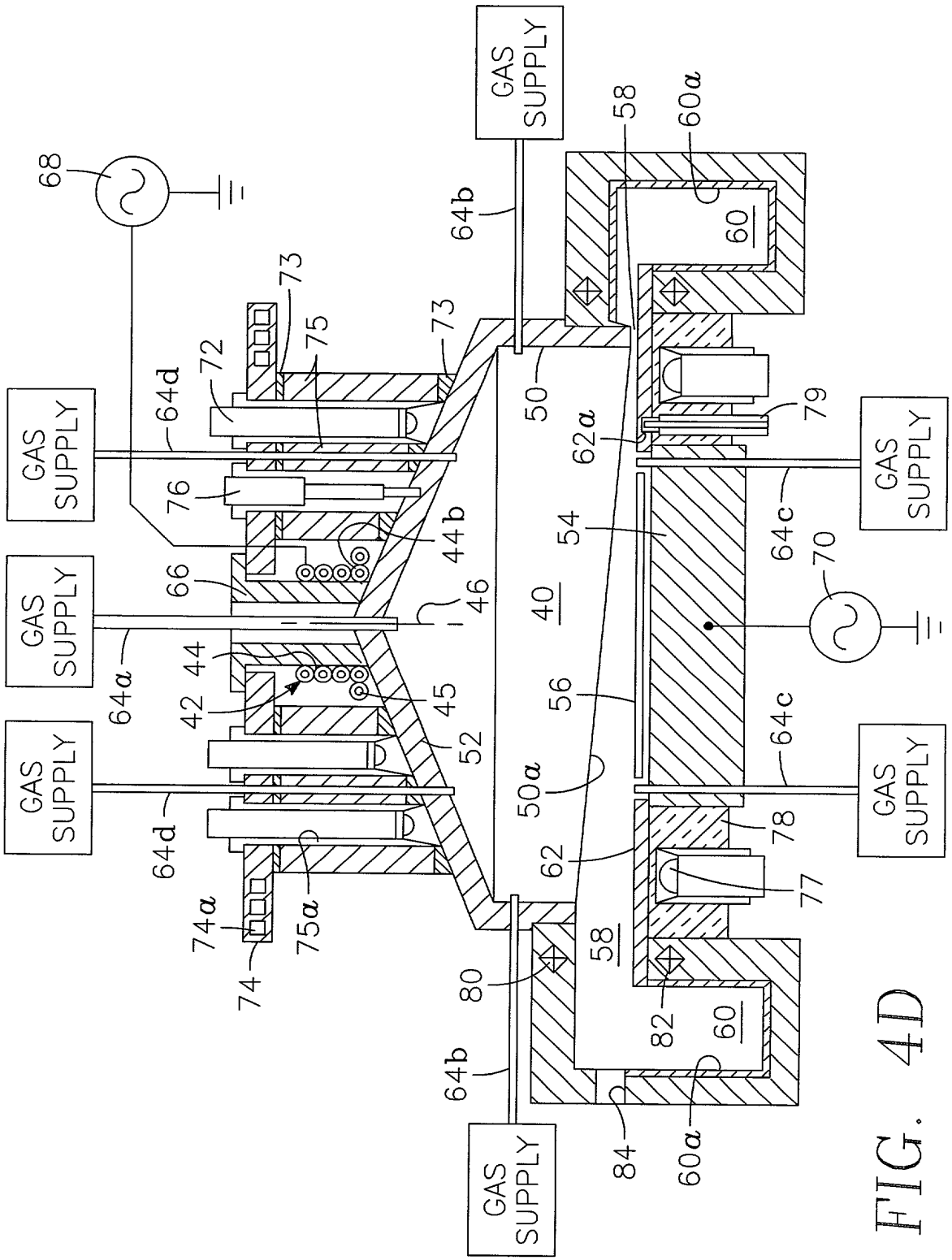
GAS SUPPLY
68
64b
58
60a
60
73
75
72
64d
50
79
62a
76
44b
54
64c
70
66
46
40
64a
44
42
45
56
52
50a
78
62
77
74a
75a
74
80
82
84

FIG. 4D

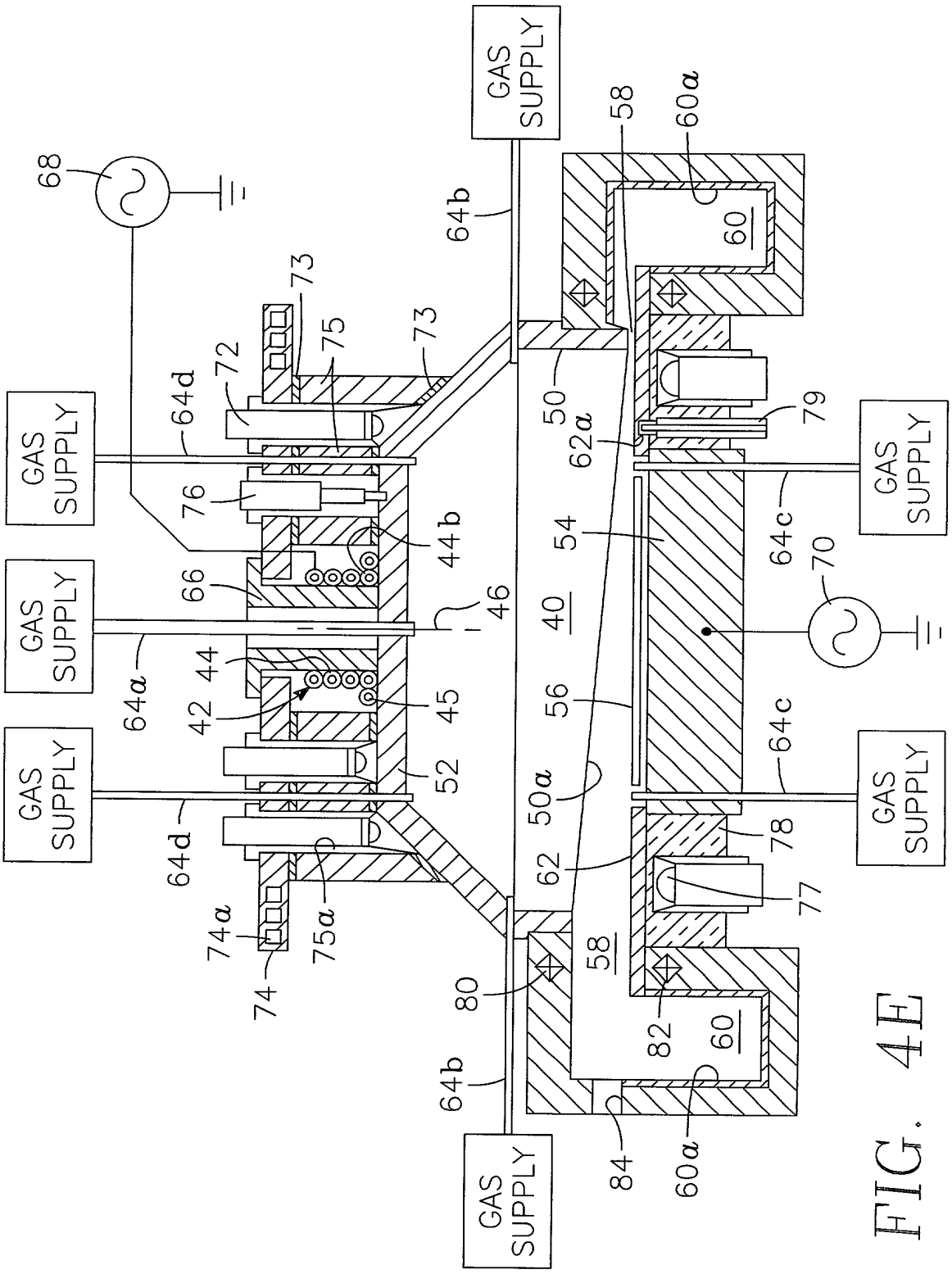
GAS SUPPLY
68
64b
58
60a
60
73
75
72
64d
50
62a
79
76
44b
54
66
46
40
64c
70
64a
44
42
45
56
52
50a
78
62
77
74a
75a
74
80
82
84

FIG. 4E

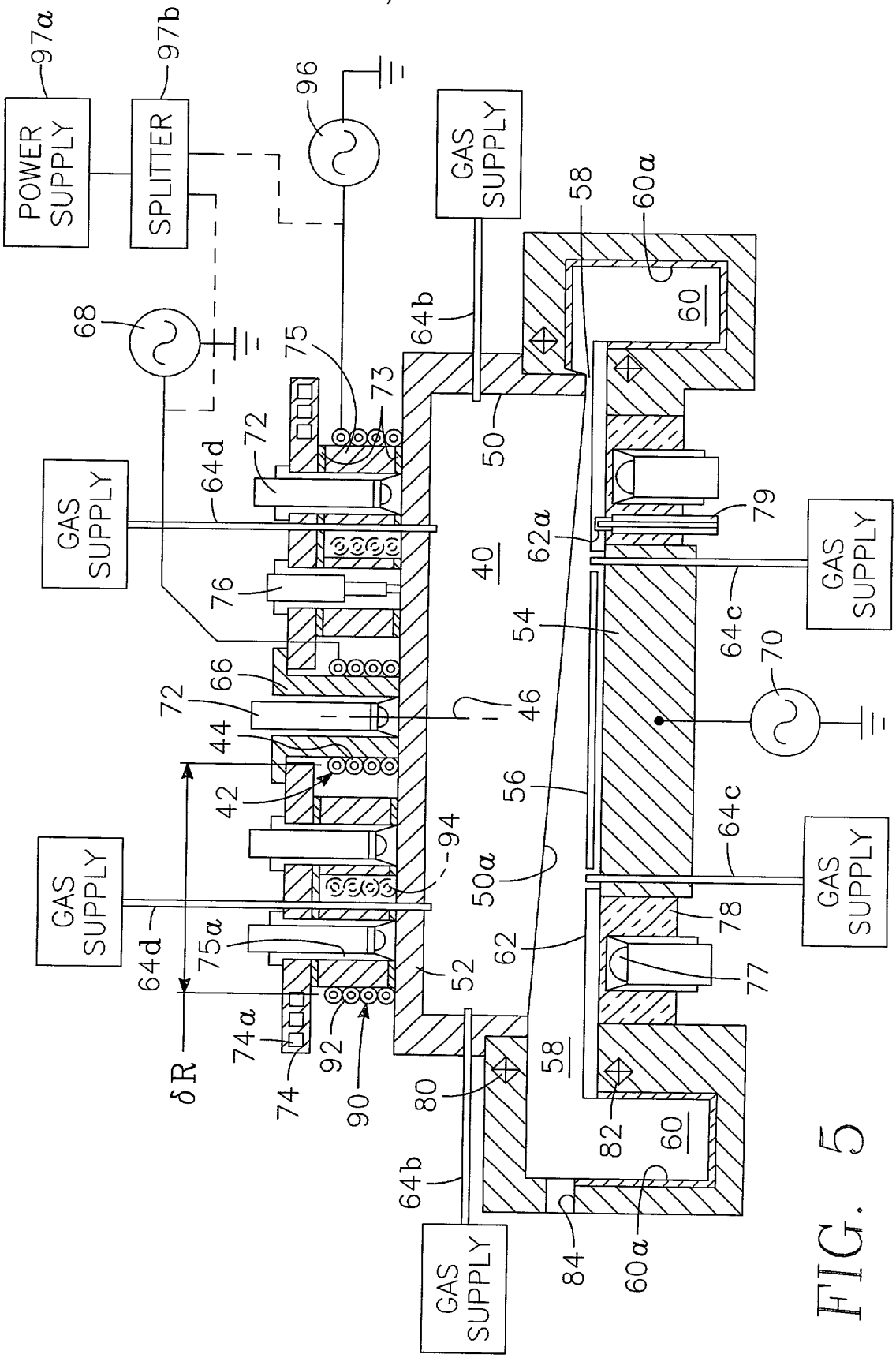
POWER SUPPLY
97a
SPLITTER
97b
96
GAS SUPPLY
58
60a
60
68
64b
75
73
50
72
64d
79
62a
40
76
54
64c
70
66
46
44
42
56
94
50a
78
62
77
52
75a
74a
92
90
80
82
84
δR
74

FIG. 5

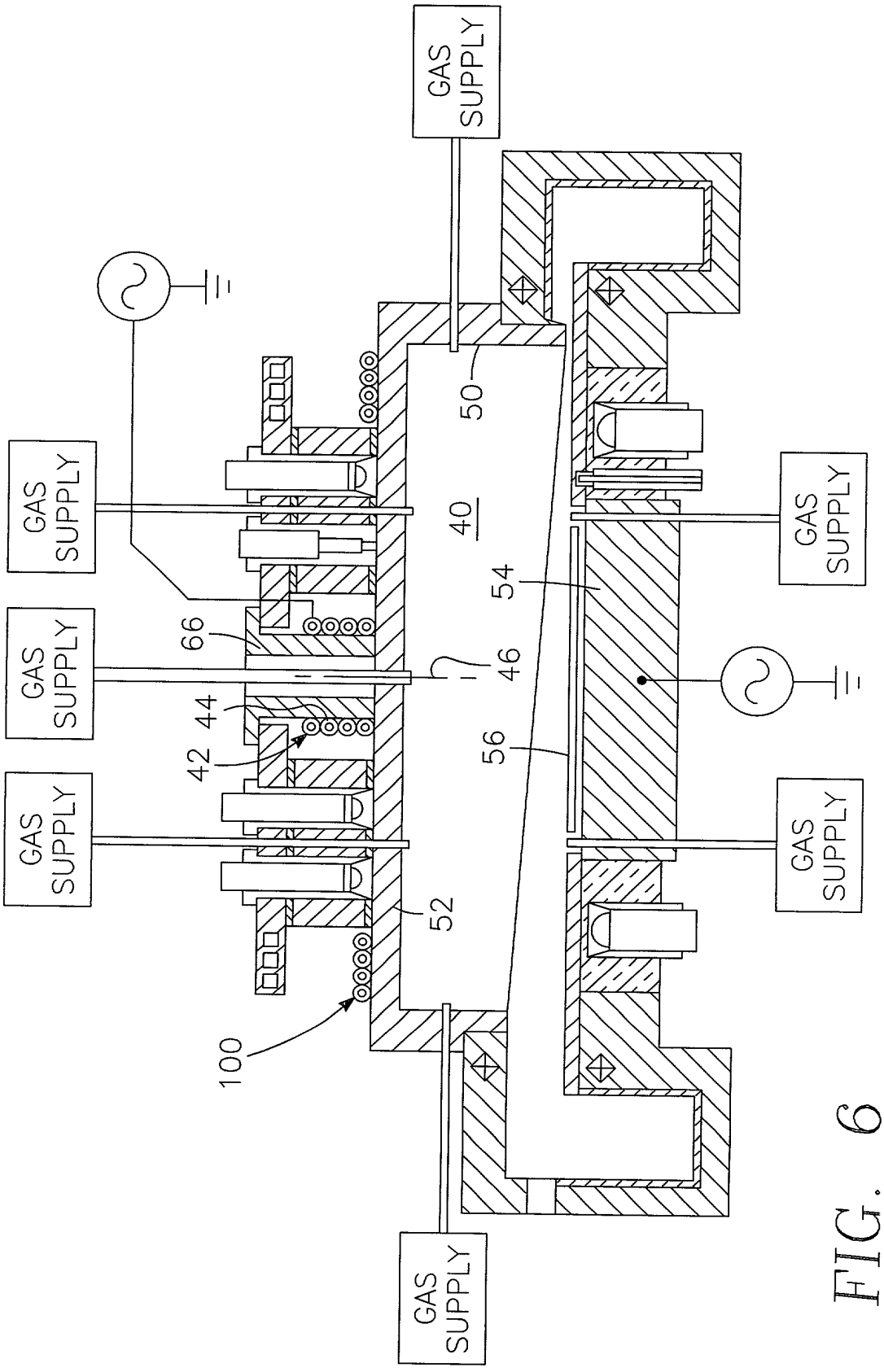
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
66
46
44
42
56
52
100

FIG. 6

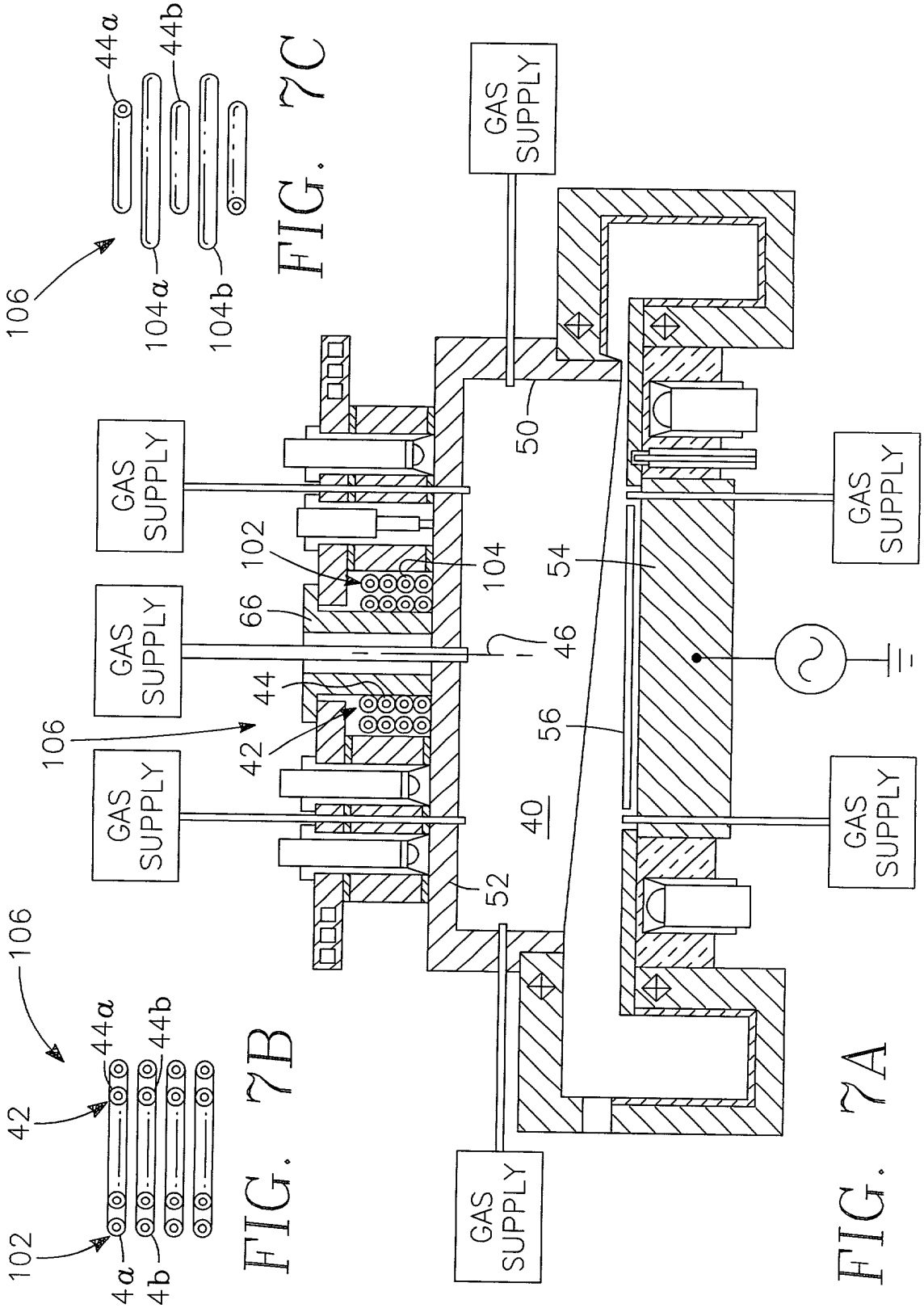

FIG. 7C

FIG. 7B

FIG. 7A

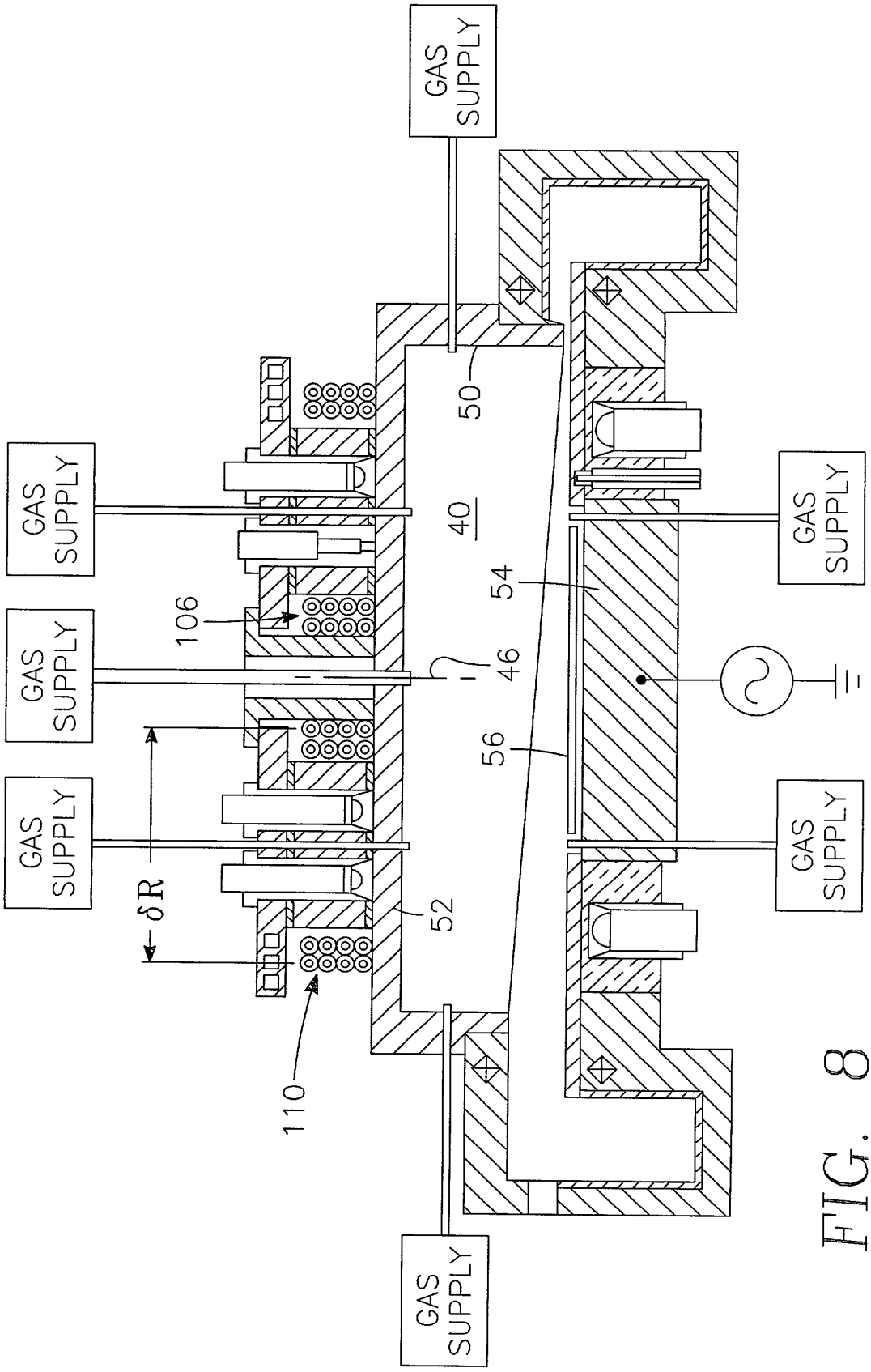
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
106
46
56
δR
52
110

FIG. 8

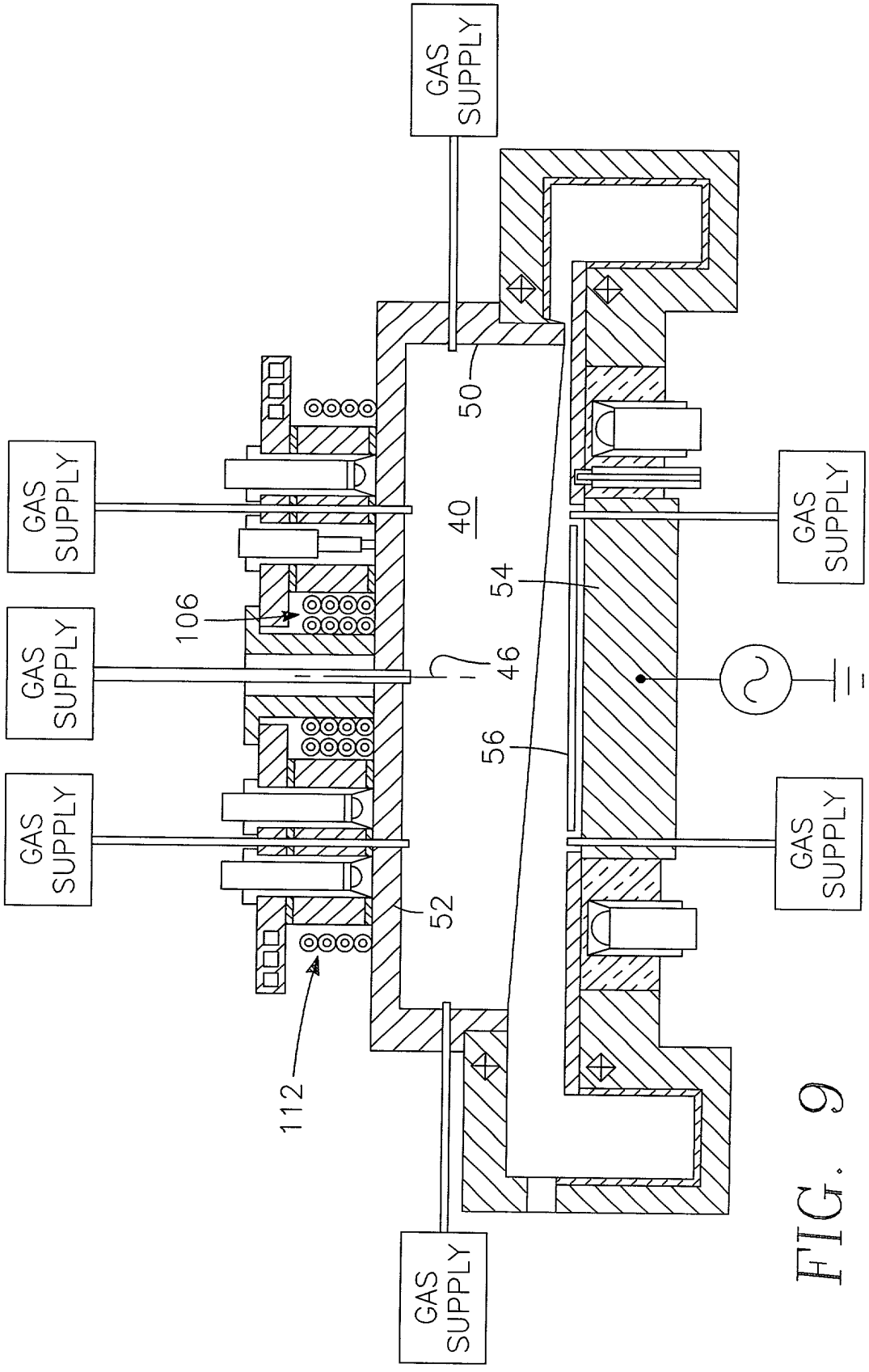
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
106
46
56
52
112

FIG. 9

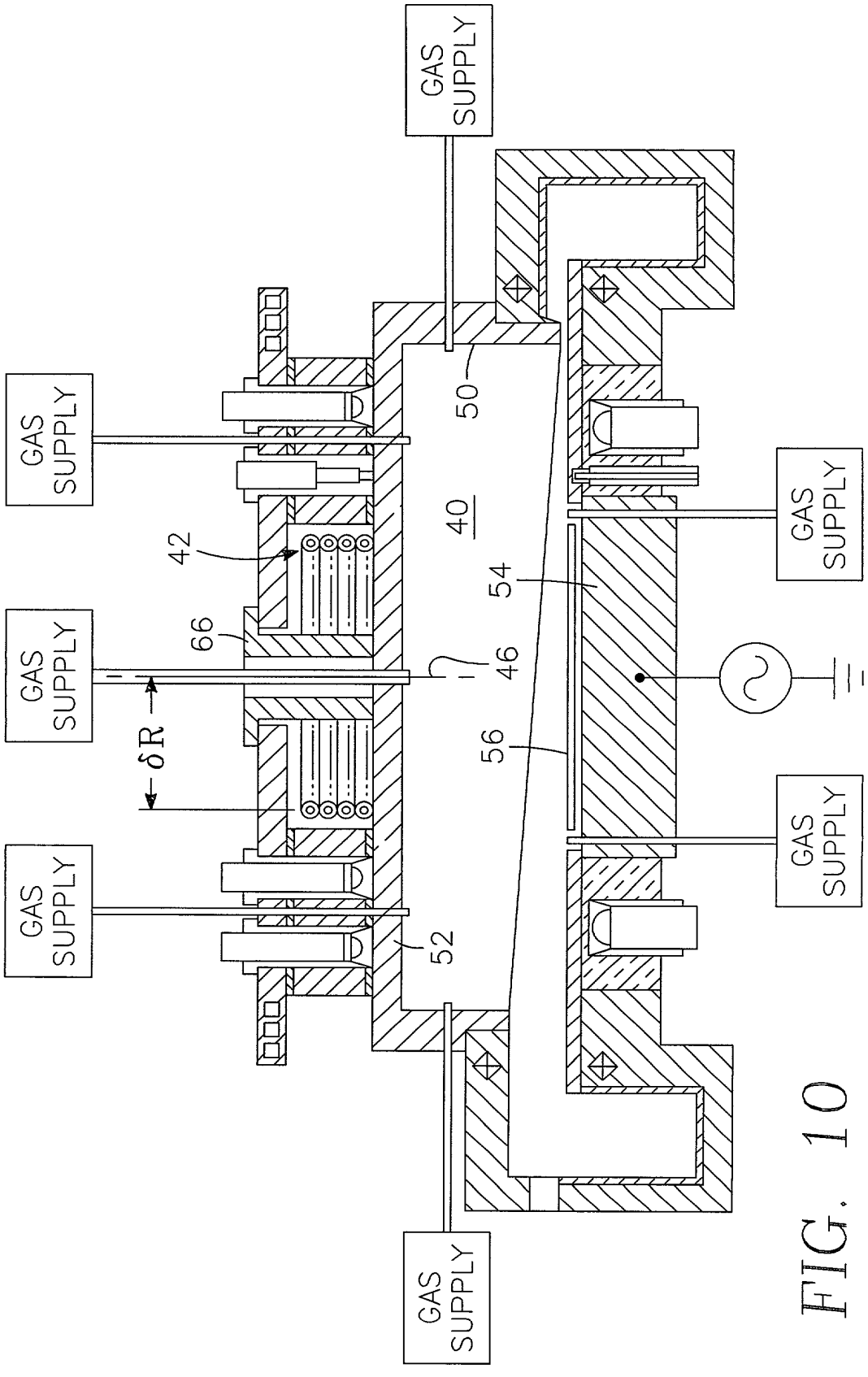
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
42
54
66
46
δR
56
52

FIG. 10

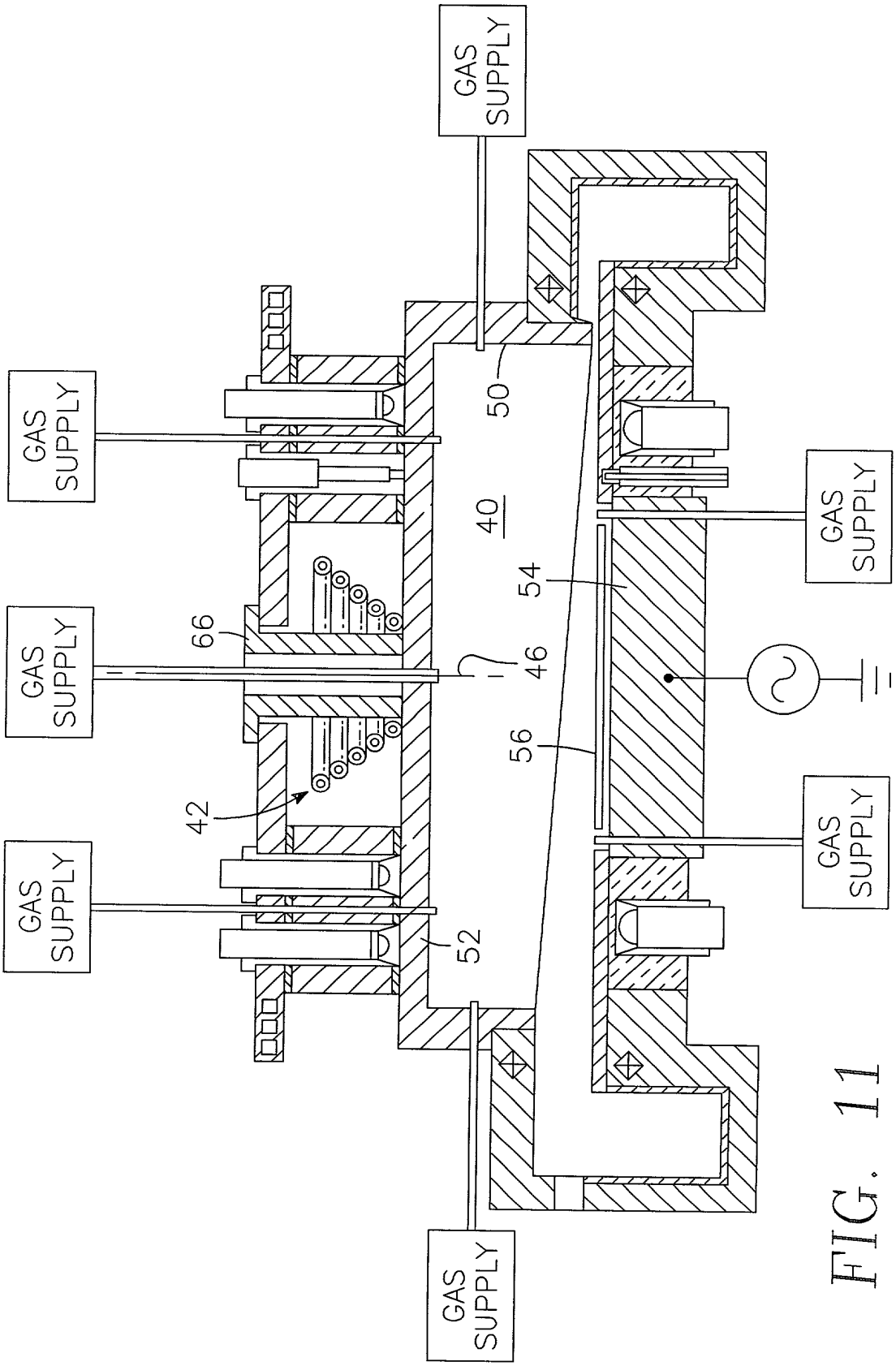
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
66
46
56
42
52

FIG. 11

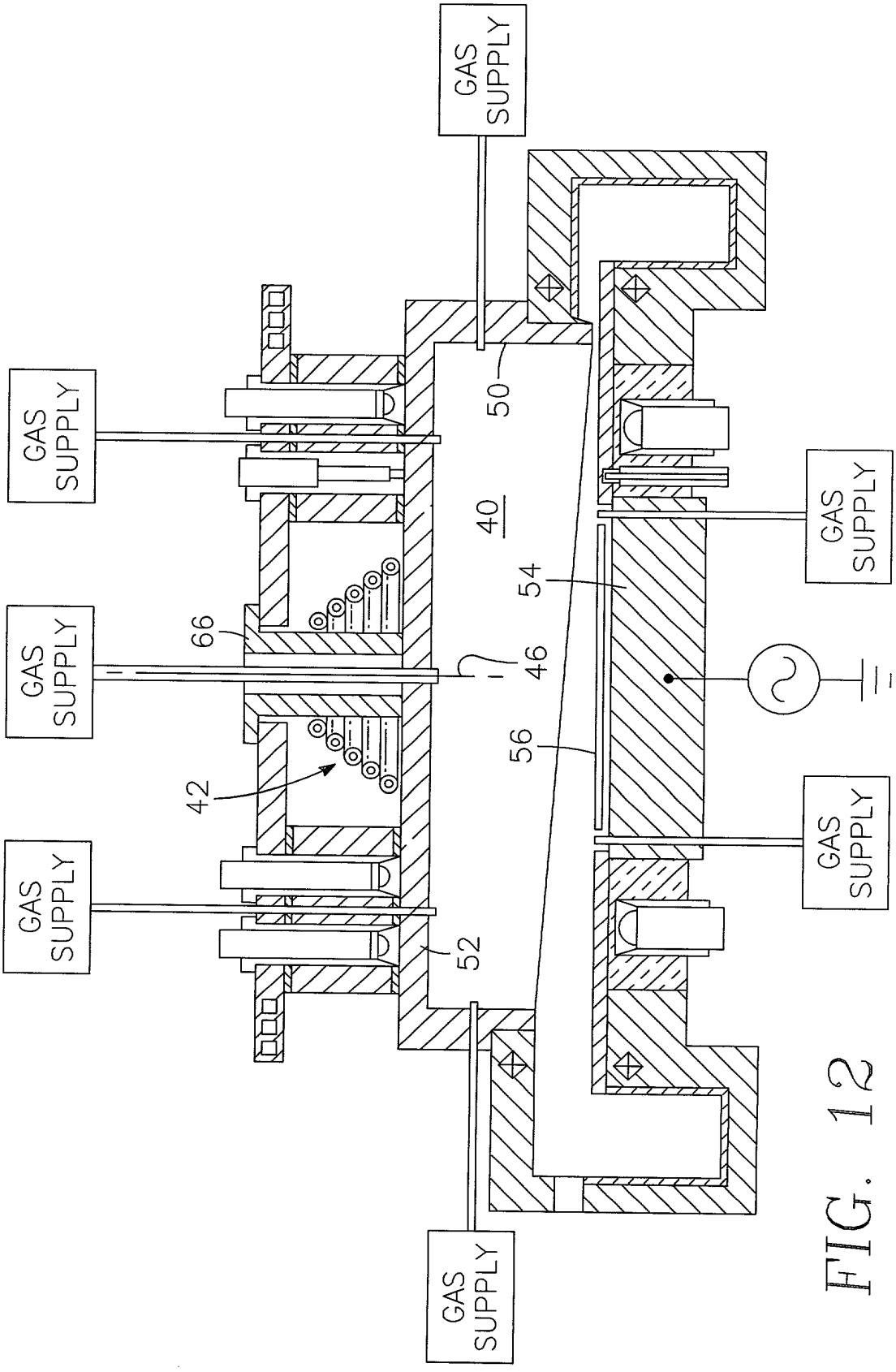
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
66
46
56
42
52

FIG. 12

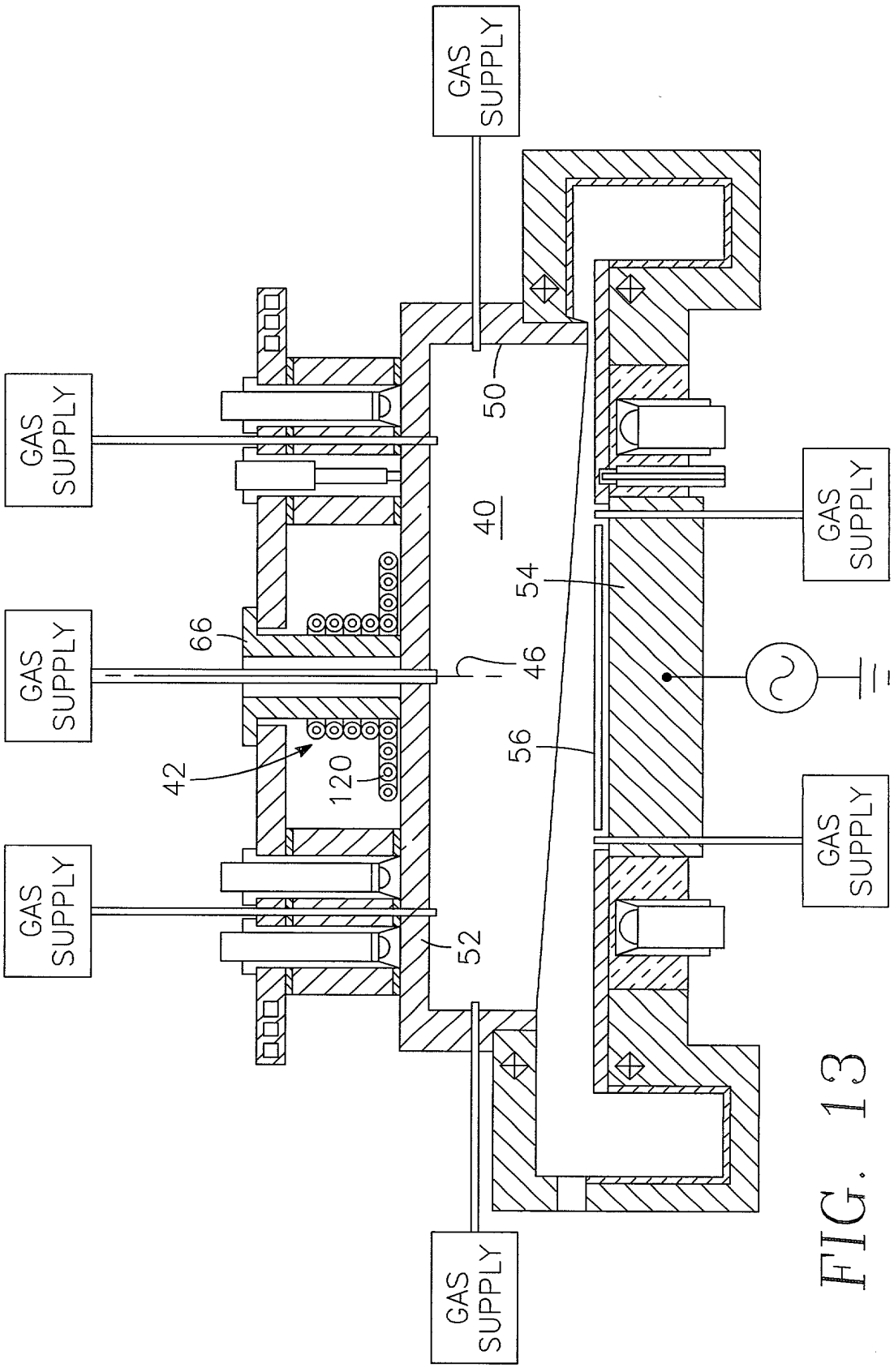
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
66
46
56
42
120
52

FIG. 13

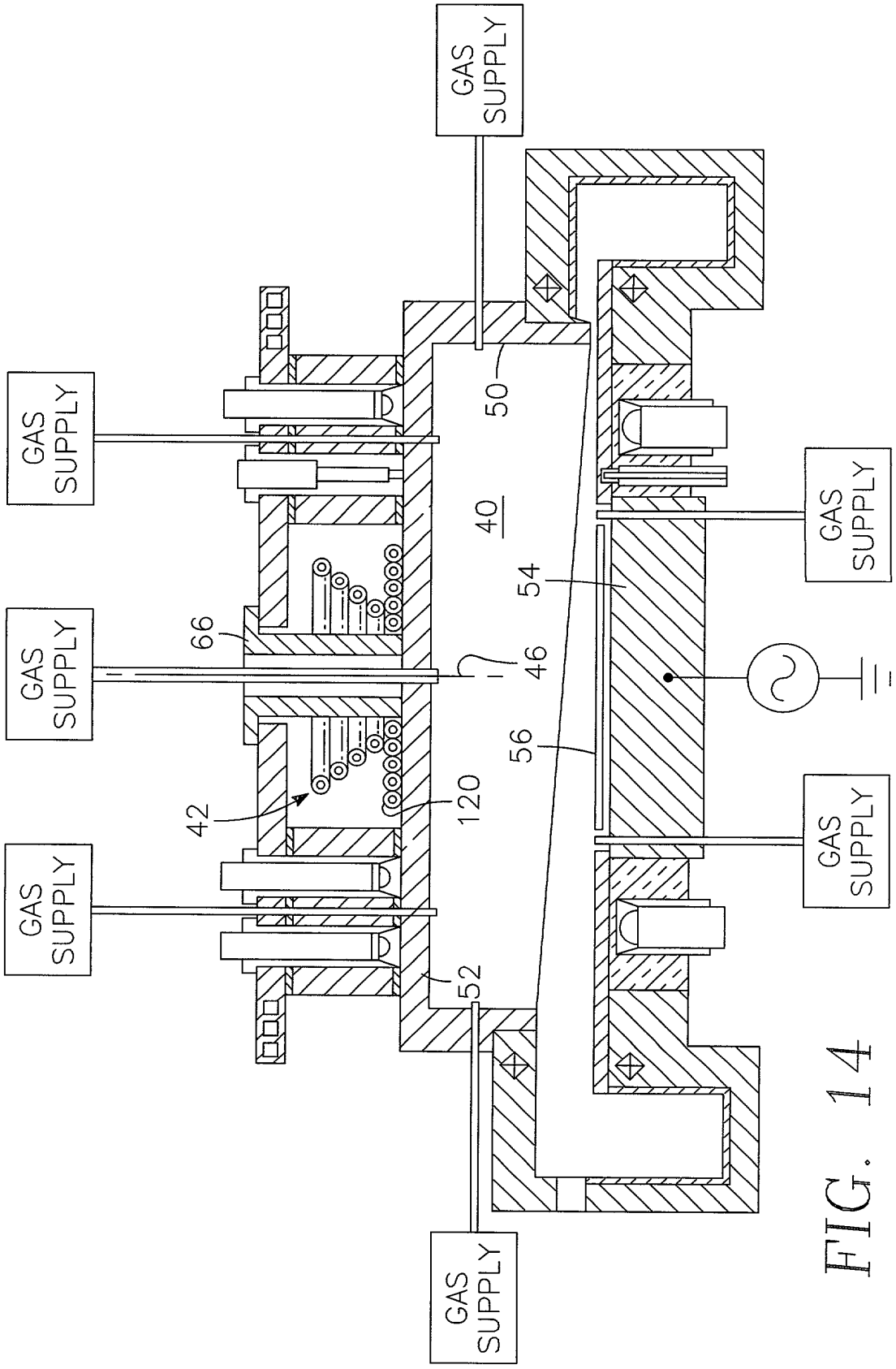
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
66
46
56
42
120
52

FIG. 14

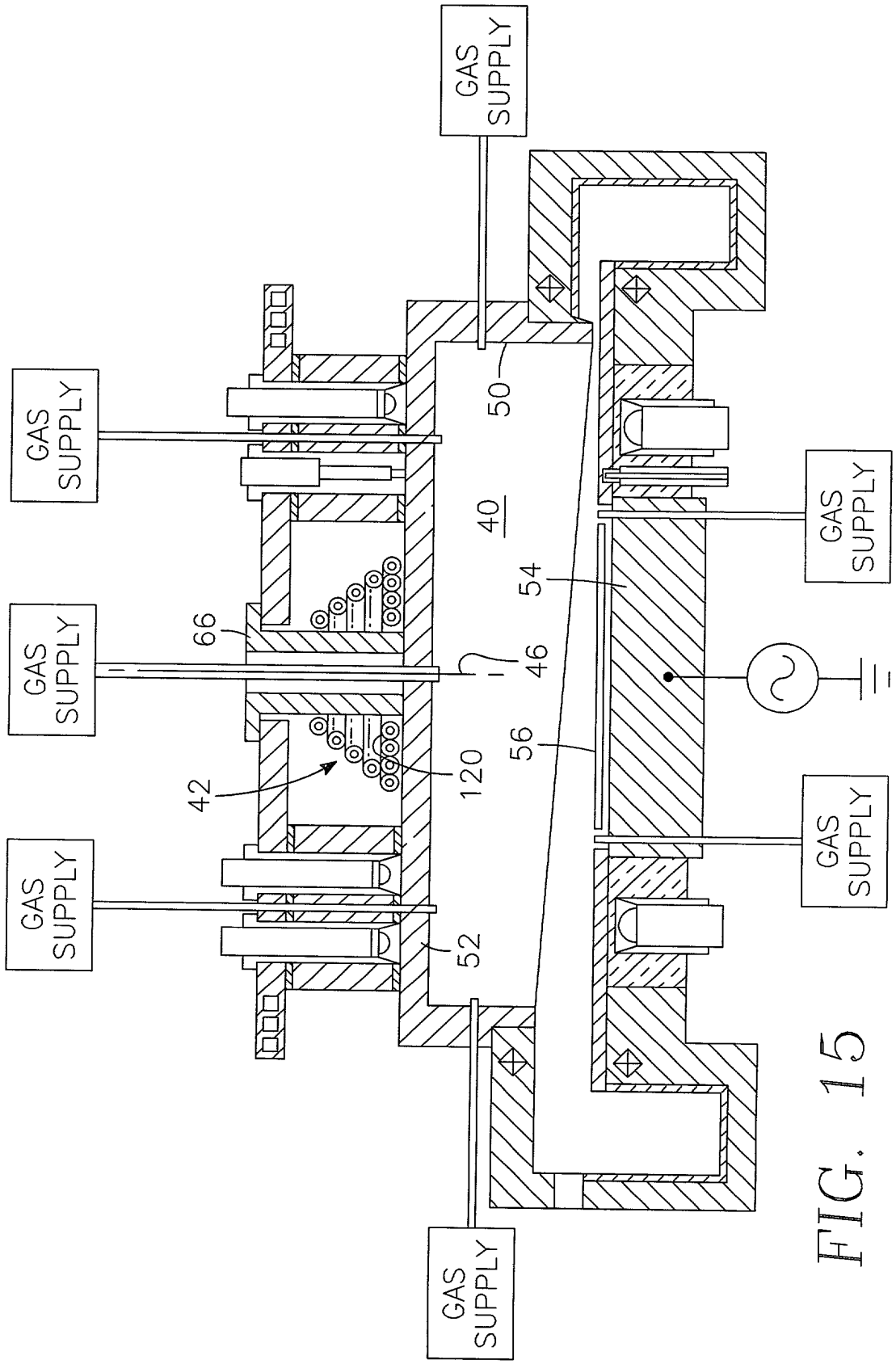
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
GAS SUPPLY
50
40
54
66
46
56
42
120
52

FIG. 15

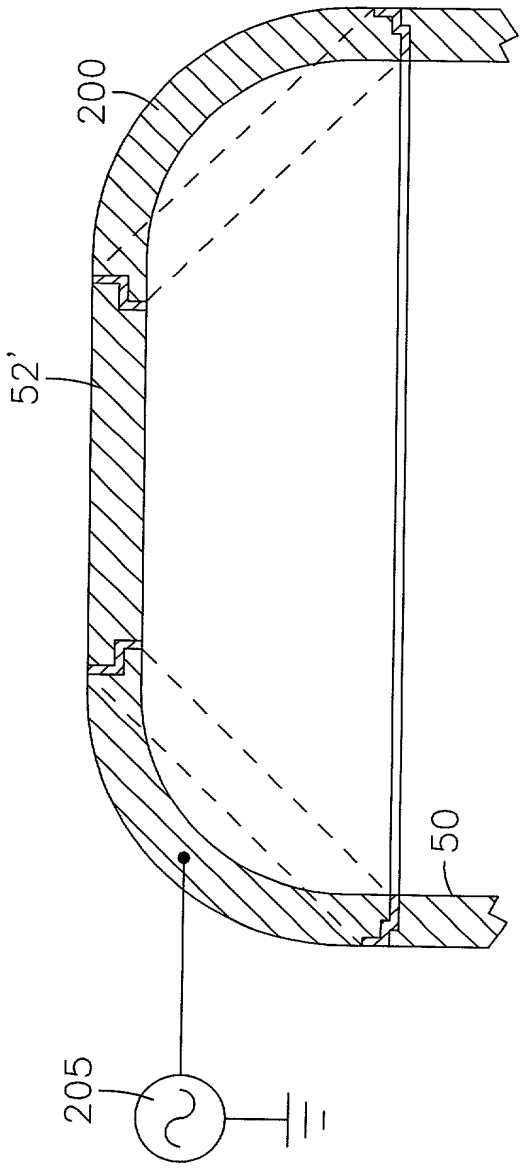

FIG. 16

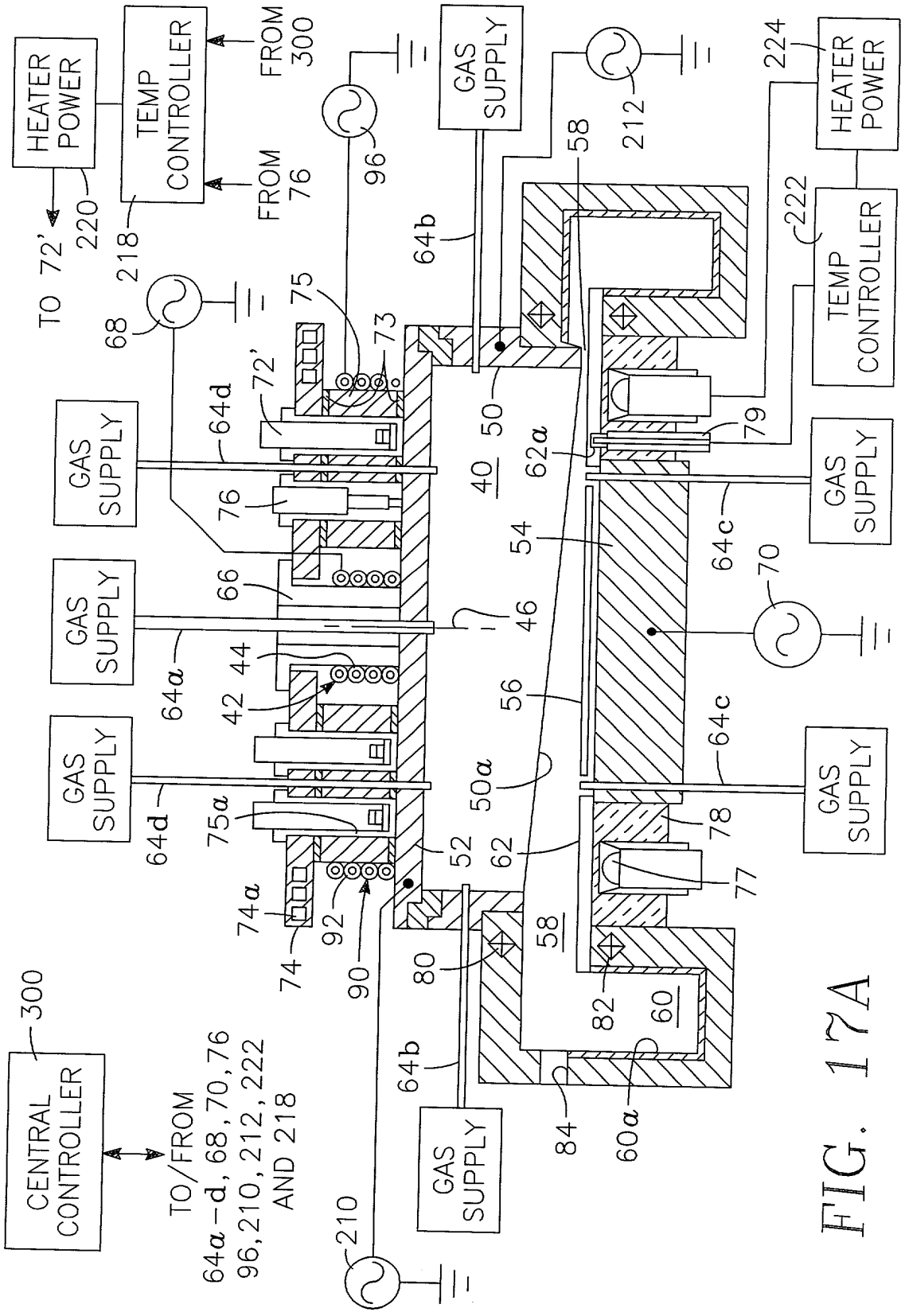
HEATER POWER
TEMP CONTROLLER
FROM 300
FROM 76
TO 72'
220
218
68
96
GAS SUPPLY
212
224
HEATER POWER
58
64b
222
TEMP CONTROLLER
75
73
72'
64d
50
79
40
62a
GAS SUPPLY
76
54
64c
66
46
70
64a
44
42
56
64c
50a
75a
52
62
78
77
74a
74
92
90
80
58
82
60
84
60a
64b
GAS SUPPLY
210
300
CENTRAL CONTROLLER
TO/FROM
64a-d, 68, 70, 76
96, 210, 212, 222
AND 218

FIG. 17A

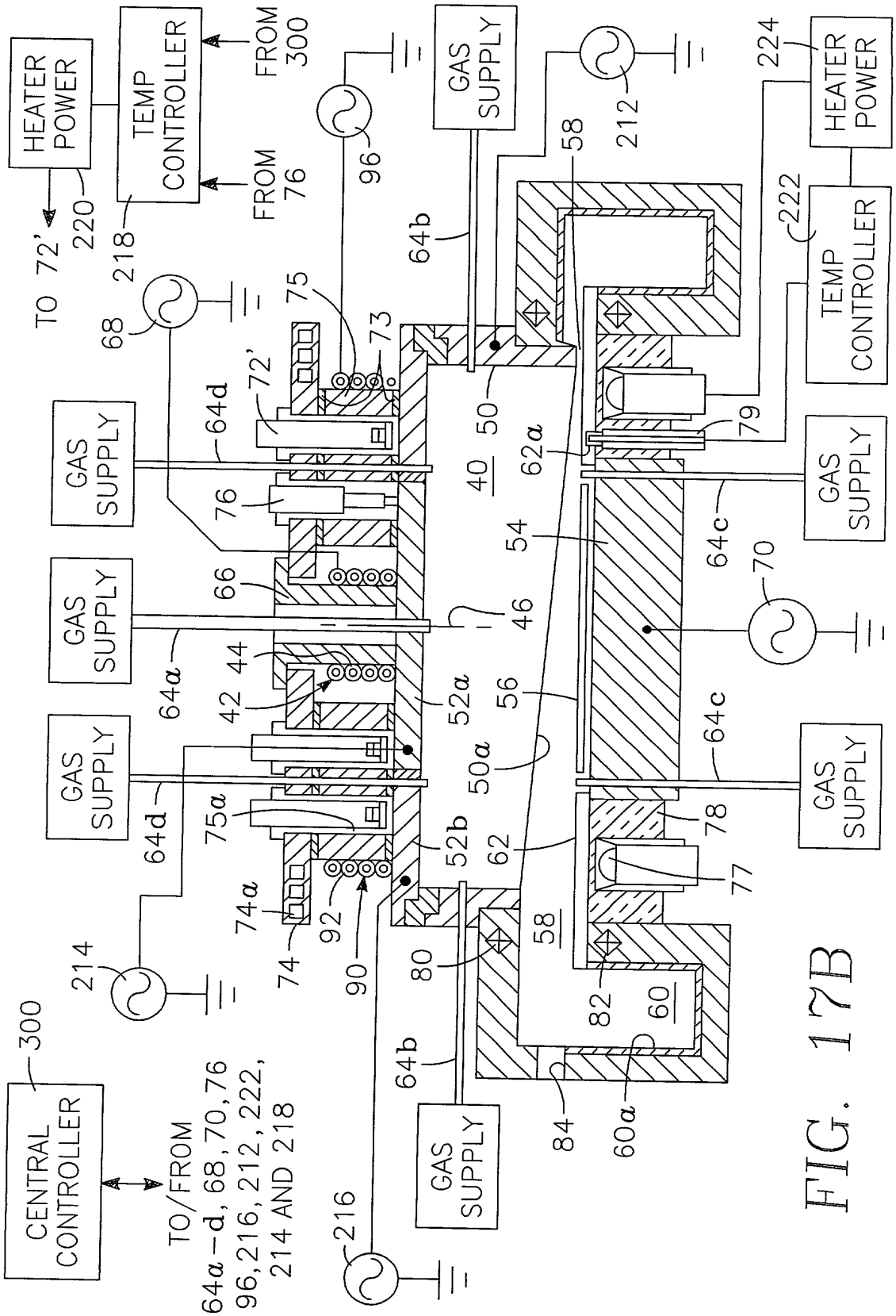
HEATER POWER
TEMP CONTROLLER
FROM 300
FROM 76
TO 72'
220
218
68
96
GAS SUPPLY
64b
58
212
224
HEATER POWER
222
TEMP CONTROLLER
75
73
72'
64d
50
79
62a
40
76
54
66
46
64a
44
42
52a
56
50a
64c
70
75a
52b
62
78
77
74a
74
92
90
80
58
82
60
84
60a
214
216
300
CENTRAL CONTROLLER
TO/FROM
64a-d, 68, 70, 76
96, 216, 212, 222,
214 AND 218

FIG. 17B

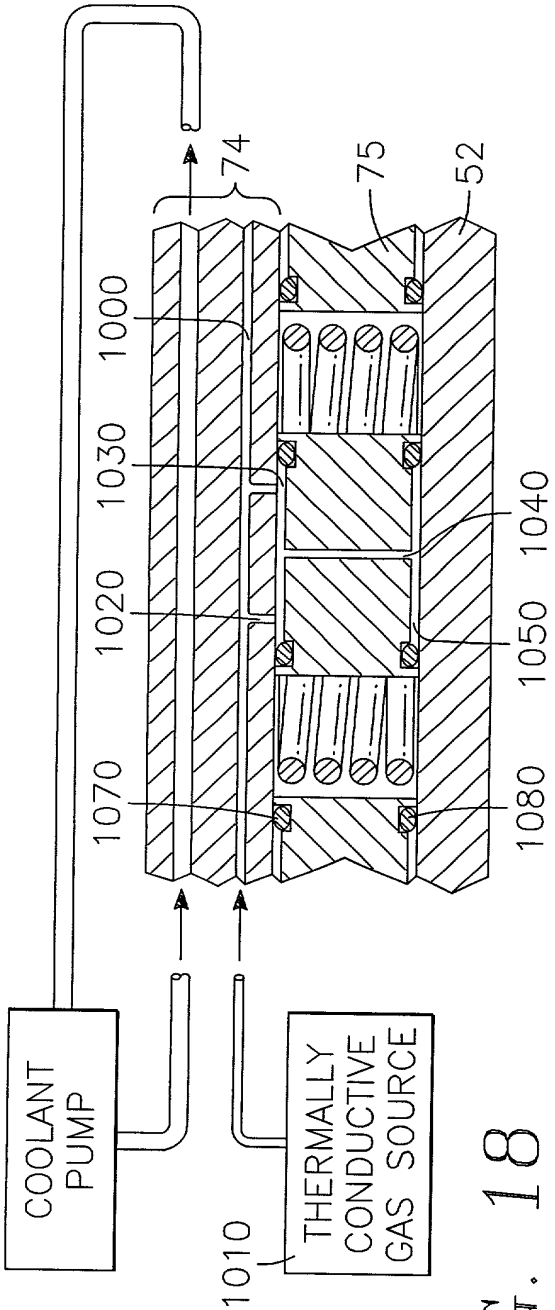
74
75
52
1000
1030
1040
1020
1050
1070
1080
COOLANT PUMP
1010
THERMALLY CONDUCTIVE GAS SOURCE

FIG. 18

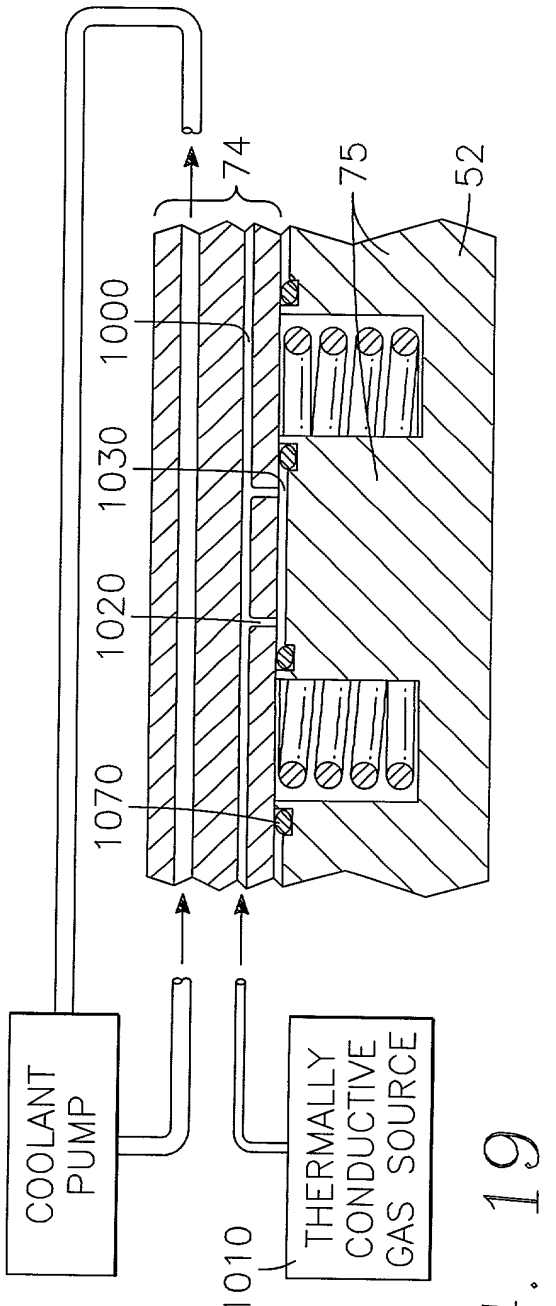
74
75
52
1000
1030
1020
1070
COOLANT PUMP
1010
THERMALLY CONDUCTIVE GAS SOURCE

FIG. 19

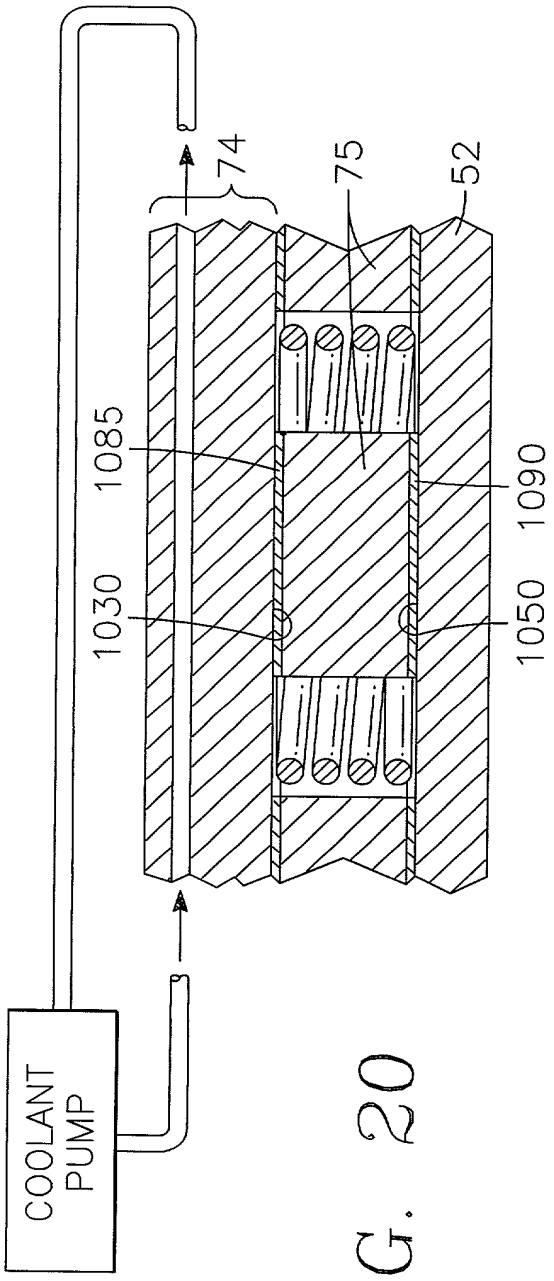
74
75
52
1085
1090
1030
1050
COOLANT PUMP

FIG. 20

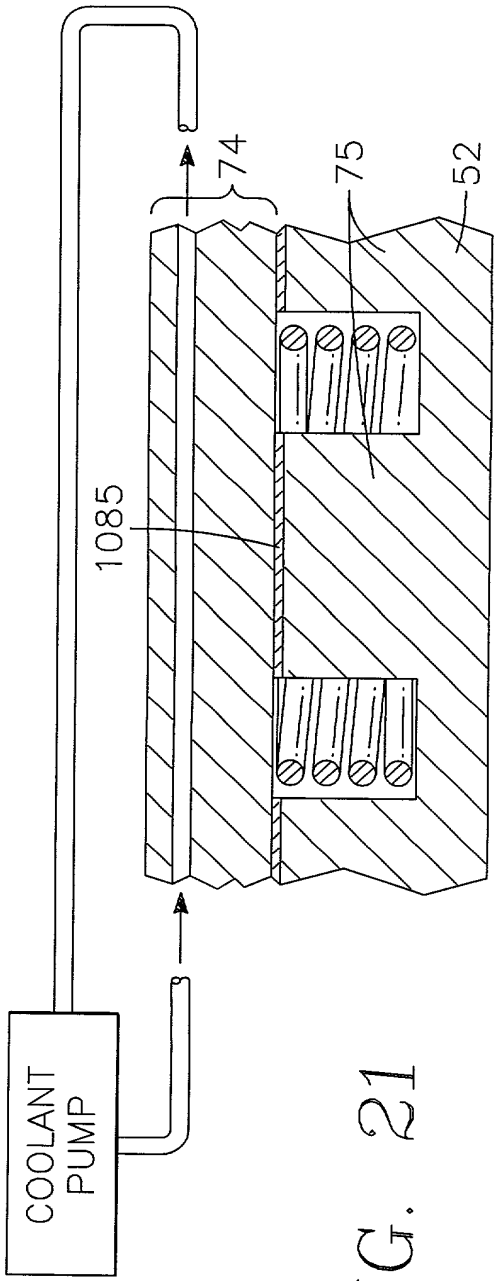
74
75
52
1085
COOLANT PUMP

FIG. 21

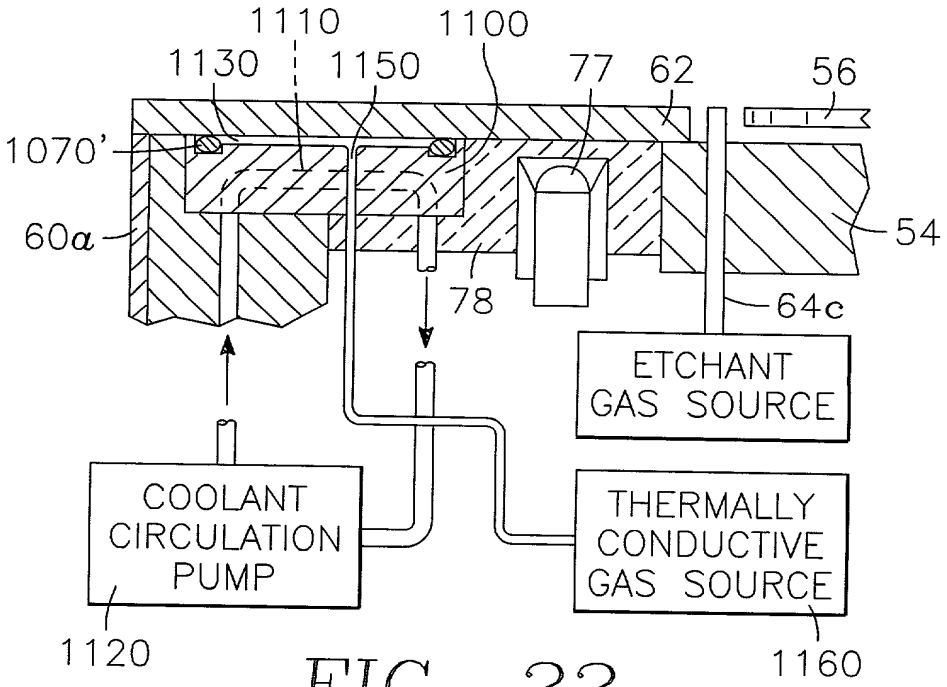
1110
1100
1130
1150
77
62
56
1070'
60a
54
78
64c
ETCHANT GAS SOURCE
COOLANT CIRCULATION PUMP
THERMALLY CONDUCTIVE GAS SOURCE
1120
1160

FIG. 22

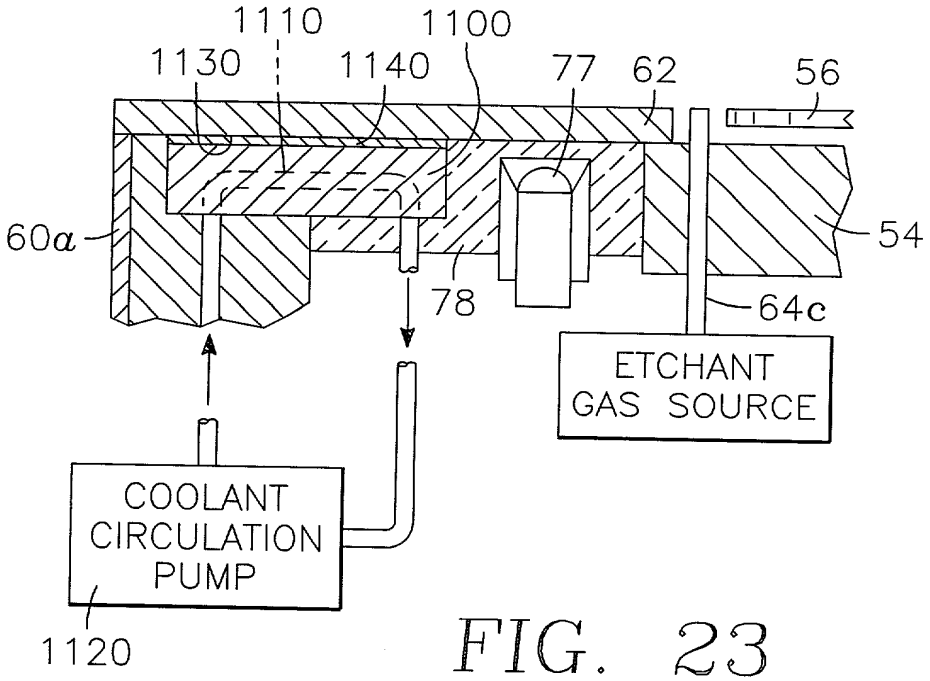
1110
1100
1130
1140
77
62
56
60a
54
78
64c
ETCHANT GAS SOURCE
COOLANT CIRCULATION PUMP
1120

FIG. 23

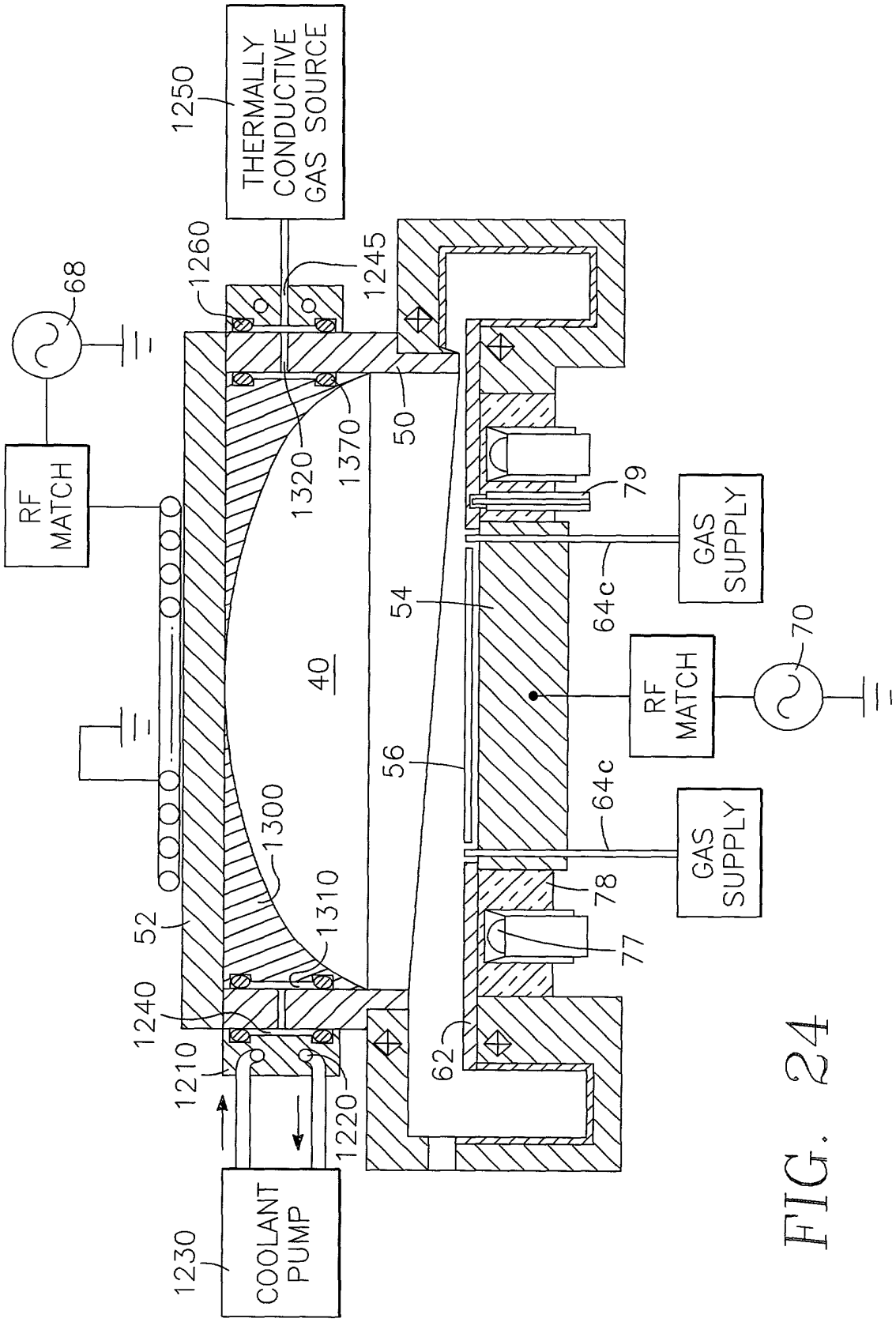
THERMALLY CONDUCTIVE GAS SOURCE
1250
1260
1245
68
RF MATCH
1320
1370
50
79
GAS SUPPLY
64c
54
70
RF MATCH
40
56
64c
GAS SUPPLY
1300
1310
78
52
77
1240
62
1210
1220
COOLANT PUMP
1230

FIG. 24

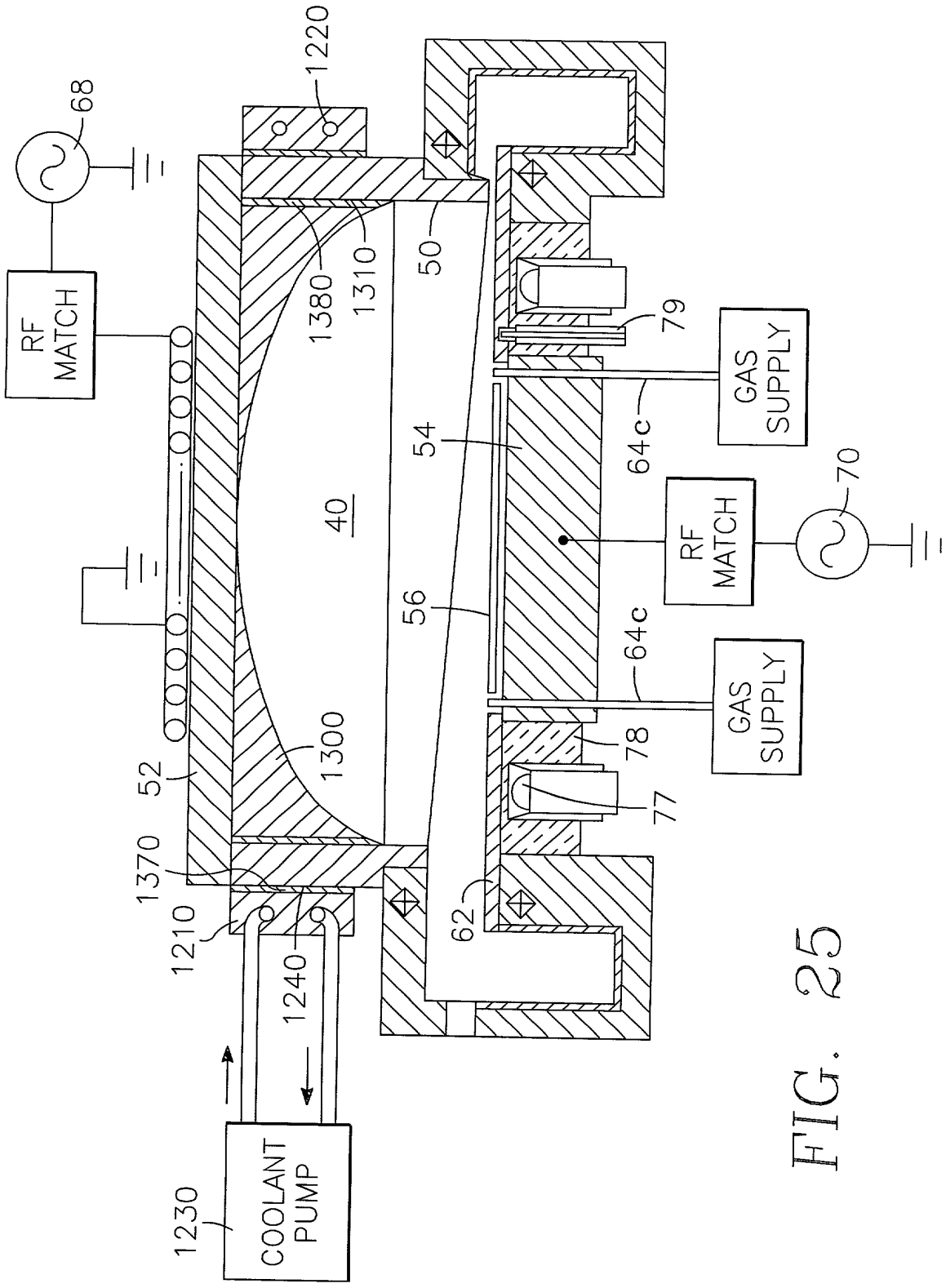
1220
68
RF MATCH
1380
1310
50
79
GAS SUPPLY
64c
54
40
70
RF MATCH
56
64c
GAS SUPPLY
78
1300
52
77
1370
62
1210
1240
1230
COOLANT PUMP

FIG. 25

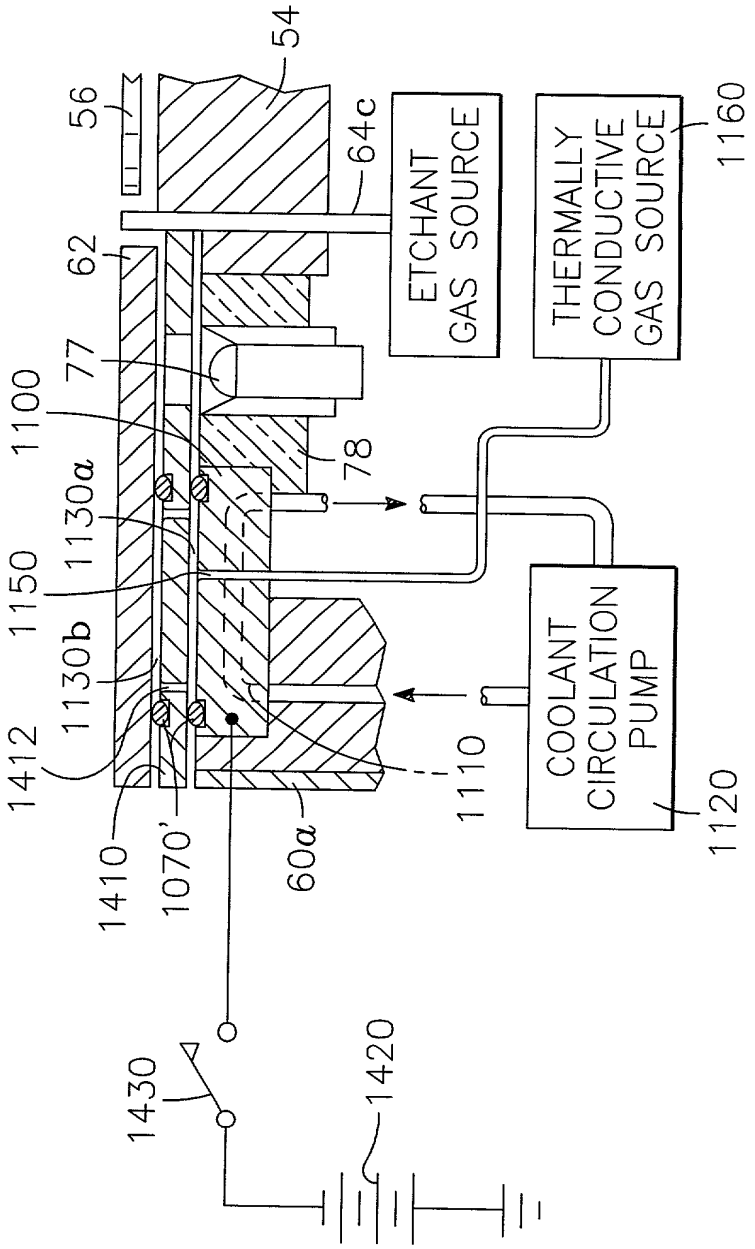
54
56
64c
62
77
1100
78
1130a
1150
1130b
1412
1410
1070'
60a
1110
1120
1160
1430
1420
ETCHANT GAS SOURCE
THERMALLY CONDUCTIVE GAS SOURCE
COOLANT CIRCULATION PUMP

FIG. 26